

On-line Appendix for *The Impact of Holy Land Crusades on State Formation*

Mean Duration and Parliament Formation Indicators

The mean duration of rule for each state in each century is obtained from Blaydes and Chaney (2013), in which the authors recorded the length of rule for every monarch in power in each political entity on the interval $[t, t + 100)$, $t \in \{700, 800, 900, 1000, 1100, 1200, 1300, 1400\}$ CE. The sample of sovereign state is updated every 100 years to include those classified by Nussli (2011). We then averaged the length of rule for all monarchs identified in each interval in each entity. For the parliament formation indicators, Blaydes and Chaney (2013) have matched the parliament data from Stasavage (2011) and van Zanden et al. (2012) to the sovereign states in Nussli (2011). For each entity in a given interval, we code the indicator as one if there was any sign of parliament formation during this time period.

City Importance in Euratlas

The notion of “importance” for medieval cities is determined in Euratlas by referencing common historical atlases (especially Engel, Josef et al., *Grosser Historischer Weltatlas:2 - Mittelalter*, Bayerischer Schulbuch-Verlag, Munich 1979 with more accurate works like including Colin McEvedy’s *Atlas de l’Histoire moderne jusqu’en 1815*, Robert Laffont, Paris, 1985). The value provided combines various factors such as the economical or political influence of the city in addition to population estimation.

The relative criteria, for the populated places rank: 1 = villages or landmarks (ruins etc.) worth to be mentioned because, at a certain time in history, the place was inhabited, 2 = existing inhabited places of lesser importance, generally small towns, 3 = medium cities or cities of unclear importance, 4 = important cities, 5 = big and important cities that is cities that can’t be avoided in the context of a specific century.

We have included in our paper cities that rank 4 or 5 according to the Euratlas classification above, and count the number of these cities by 1000 CE as a measure of pre-crusader economic development.

Classification of Sovereign State in Euratlas

The definition and use of the term “sovereign state” or “sovereign entity” in this paper is adapted from Euratlas <http://www.euratlas.net/>. The notion of sovereignty varies through the centuries and culture. In the medieval period, several entities would claim sovereignty as they had their own mint or, in the Ottoman view, every entity paying some amount of money to the Porte would be considered “dependent.” Euratlas retains the modern Swiss constitutional view (similar in states with a Romano-Germanic legal system.¹ That is, a sovereign state is an independent entity that possesses four features: 1. a territory delimited by borders; 2. a population; 3. an authority exercising the effective public power on population and territory; 4. supremacy, that is with capacity to control absolutely the territory and the population. An exception to the

¹Euratlas notes that Google Adwords, for instance, has adopted another system and, in the UNO view, there is a slight political difference.

rule perhaps applies in the twenty first century, in which a fifth condition is in the process of appearance: 5. international recognition (i.e., the entity has to be recognized by the majority of the UNO General Assembly, cf. Kosovo).² In contrast, a dependent or vassal state does not have supreme authority and is subject to a higher level entity. Hence, a change in the sovereign state of a particular region refers primarily to a change in the authority that governs the region and its population with supremacy.

Certain ambiguities in terms of classification are inevitable. For example, while some may argue that Spain and Russia did not exist in 1200 CE, Euratlas codes the Kingdom of Castile and Grand Principality of Vladimir-Suzdal in 1200 CE as the precursor sovereign states of Spain and Russia, respectively. For Russia, the first prince of Moscow (Daniel of Moscow) was the youngest son of Alexander Nevski, Grand Prince of Vladimir. For Spain, Castile was effectively the most significant part of Spain; nowadays Spanish language is still called Castilian . While each case differs from another, Euratlas uses the commonly recognized successions of states based on an extensive list of references.³

One potential caveat of using the above classification is that the definition of a sovereign state is inclusive of many different kinds of polities. It can refer to a theocracy, a republic, or monarchies. We do not classify these different types of states in Euratlas and control for them; the notion of sovereign state over this period was very much mutable and was, in some cases the outcome of crusader mobilization (e.g., the Kingdom of Cyprus).

Summary Statistics

Table 1: *Summary Statistics: Mean Duration*

	Mean	SD	Min	Max	Count
Mean Duration of Rule	17.55	10.00	1	70	148
Crusader Mobilization by 1200 CE	6.11	43.51	0	423	148
Latitude	48.46	6.54	35	59	148
Area in 1200 CE	0.37	0.46	0	2	148
Agricultural Suitability	0.59	0.25	0	1	148
Topographic Ruggedness Index	129.27	96.53	14.24	339.73	148
Number of Important Cities (Nussli) under 1200 CE Boundary	7.16	14.38	0	70	148
Number of Cathedrals under 1200 CE Boundary	4.92	15.22	0	100	148
Carolingian	0.13	0.30	0	1	148
Observations	148				

²We thank Christos Nussli for providing these detailed descriptions of the data. Further information on the definition of sovereign states is available at <http://www.euratlas.net/history/europe/explanation.html>.

³For a full bibliography, see Euratlas Periodis Expert Bibliography at <http://www.euratlas.com/index.html>.

Table 2: *Summary Statistics: City Population*

	mean	sd	min	max	count
Urban population (in 1000 CE, Bairoch)	12.20	27.59	1	948	4,369
Crusader Mobilization by 1200 CE	0.17	0.97	0	16	13,248
Latitude	48.10	5.13	35	65	13,248
Agricultural Suitability	0.69	0.24	0	1	13,248
Topographic Ruggedness Index	101.88	123.42	0.22	788.56	13,248
Carolingian	0.42	0.49	0	1	13,248
Observations	13,248				

Table 3: *Summary Statistics: Urban Autonomy*

	mean	sd	min	max	count
Level of Autonomy	0.20	0.38	0	1	1,352
Year of Independence	44.67	111.93	0	666	1,352
Crusader Mobilization by 1200 CE	0.24	1.16	0	13	1,352
City population	26.73	37.99	1	500	1,020
=1 if port city	0.21	0.41	0	1	1,352
=1 if bishop's seat	0.58	0.49	0	1	1,352
=1 if Roman settlement	0.50	0.50	0	1	1,352
=1 if riverine port	0.30	0.46	0	1	1,352
Latitude	45.79	5.11	36	56	1,352
Longitude	5.40	6.53	-9	18	1,352
Observations	1,352				

Robustness Checks

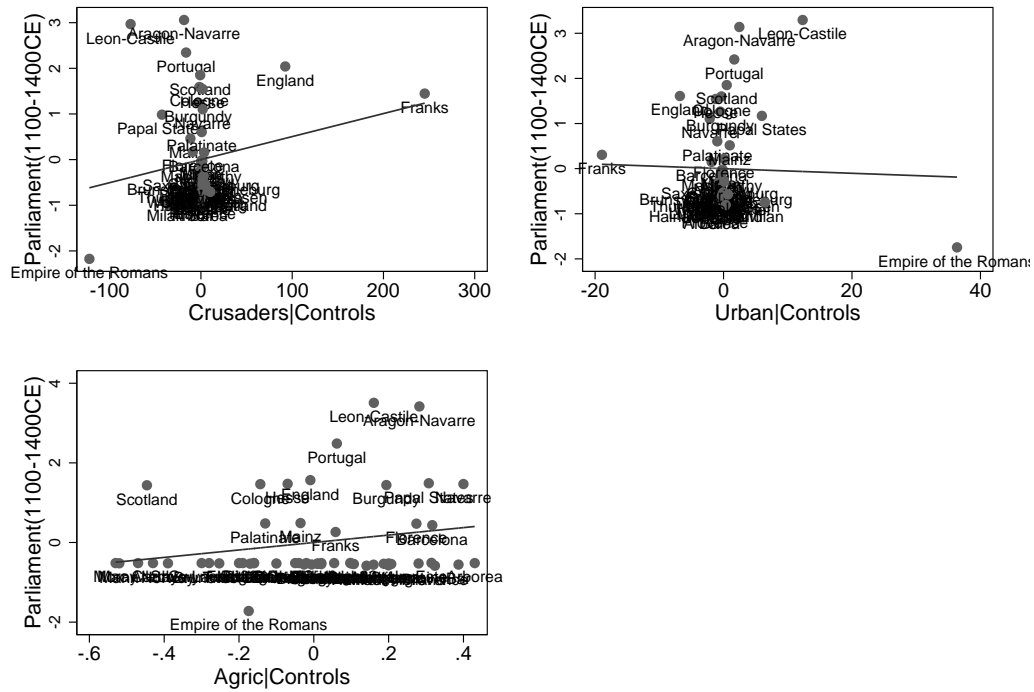


Figure 1: *Partial regression plots of the conditional effects of crusader mobilization (upper-left panel) on centuries of parliament existence after controlling for pre-Crusades urbanization and agricultural suitability. This plot uses a “flexible boundaries” approach where measures of crusader mobilization and control variables are changing with state boundaries.*

Table 4: Crusade States vs. Non-Crusader States on Duration of Rule (Outlier Analysis)

	None Omitted	England, HRE and France Omitted
[700,800)	8.718 (25.098)	-18.171 (28.329)
[800,900)	13.519 (24.219)	-13.260 (28.191)
[900,1000)	8.085 (24.959)	-19.515 (28.658)
[1000,1100)	5.169 (24.997)	-24.458 (28.067)
[1100,1200)	7.721 (24.657)	-22.339 (27.721)
[1200,1300)	7.771 (24.494)	-22.503 (27.774)
[1300,1400)	10.733 (24.316)	-19.243 (27.863)
[1400,1500)	10.275 (24.281)	-21.039 (27.777)
Crusader Mobilization X 1100	0.042** (0.018)	2.494*** (0.743)
Crusader Mobilization X 1200	0.034 (0.034)	2.096*** (0.712)
Crusader Mobilization X 1300	0.003 (0.026)	1.269 (0.748)
Crusader Mobilization X 1400	0.012 (0.017)	1.975** (0.780)
Observations	148	126

Standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

All specifications include Geographic, Carolingian, Cities and Cathedrals controls.

Table 5: Impact of Crusader Mobilization on Duration of Rule (Flexible Boundaries)

	(1)	(2)	(3)	(4)
[700,800)	17.051*** (2.259)	0.401 (15.435)	1.679 (16.506)	7.706 (16.749)
[800,900)	19.183*** (2.482)	2.575 (15.070)	3.907 (16.223)	9.849 (16.411)
[900,1000)	18.032*** (1.478)	1.222 (15.519)	2.368 (16.735)	8.098 (16.942)
[1000,1100)	14.392*** (1.210)	-1.811 (15.731)	-0.639 (16.916)	5.180 (17.080)
[1100,1200)	15.227*** (1.403)	-1.031 (15.386)	0.280 (16.599)	5.935 (16.752)
[1200,1300)	16.404*** (1.849)	-0.103 (15.382)	1.237 (16.589)	6.806 (16.834)
[1300,1400)	18.716*** (0.917)	2.133 (15.393)	2.863 (16.501)	8.104 (16.689)
[1400,1500)	18.668*** (1.001)	1.882 (15.612)	2.489 (16.794)	7.654 (16.961)
Crusader Mobilization X 1100	0.027*** (0.009)	0.028*** (0.009)	0.024*** (0.009)	0.033*** (0.012)
Crusader Mobilization X 1200	0.025 (0.020)	0.028 (0.019)	0.024 (0.021)	0.035 (0.031)
Crusader Mobilization X 1300	-0.001 (0.012)	0.000 (0.011)	-0.002 (0.012)	0.005 (0.021)
Crusader Mobilization X 1400	0.003 (0.009)	0.006 (0.009)	0.004 (0.008)	0.013 (0.010)
Geographic Controls	No	Yes	Yes	Yes
Carolingian	No	No	Yes	Yes
Cities and Cathedrals	No	No	No	Yes
Observations	346	332	332	332

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

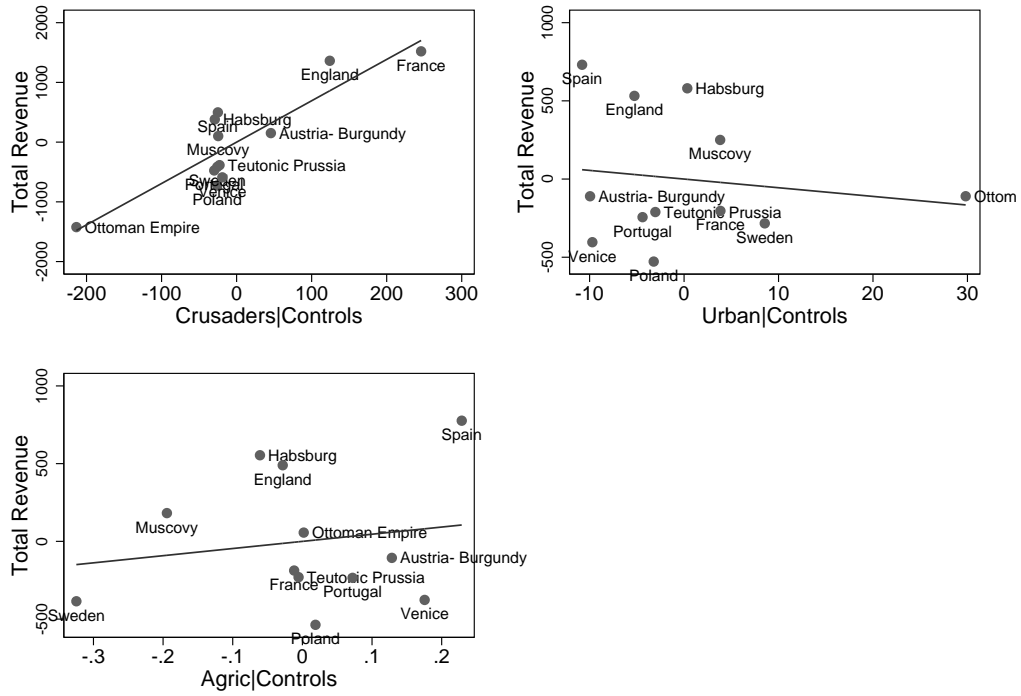


Figure 2: *Partial regression plots of the conditional effects of crusader mobilization (upper-left panel) on total revenue 1500-1800 CE after controlling for pre-Crusades urbanization and agricultural suitability. This plot uses a “flexible boundaries” approach where measures of crusader mobilization and control variables are changing with state boundaries.*